COHEN, Guy APPLICANT(S): 10/695,457 SERIAL NO.: October 29, 2003 FILED: Page 11 REPLACEMENT SHEET PURSUANT TO 37 CFR 1.121(D) JUL 1 3 2005 During Programming of a Set of Total Cells, Count and Store the Number of Cells Programmed Either Above or Below Each Program State 600 (e.g. check-sum # of cells below 01 = X, check-sum # of cells below 00 = Y, and check-sum # of cells below 10 = Z, etc.., where  $X+Y+Z + \text{etc} = T_{\text{otal}}$ ) During Reading of the Set of N NVM Cells, Compare the Number of Cells Found to Be in Each Given State (11,01, 610 00,11) Against the Stored Values (X,Y,Z, etc.) if Stored Values Don't Correspond With the Number of Cells

620

FIG. 7A

Found in Each State During Reading, Adjust Read Verify

Threshold Levels To Compensate Accordingly

When Checking Number Of Cell's Found (e.g. Reading) in The N<sup>th</sup> Program State (e.g. 2nd Program State), Compare the Number Found 621 Against [(check-sum # of cells below N+1th Program State) - (check-sum # of cells below Nth Program State)], Where the "check-sum#" Value For Each State Stored During Programming (See FIG. 6A) If Nth Program State Is the Highest Program State, Compare the Number Of Cell's Found in That State Against  $[(T_{\text{otal}})$  - (check-sum # of cells below Nth Program State)] If Number Of Cell's Found in The Nth Program State Exceed the Compared To Value, Either Raise The Read Verify Threshold Value Associated With the Nth Program State or Lower the Read Verify Associated With the Next State (N+1) If Number Of Cell's Found in The Nth Program State Is Below the Compared To Value, Either Lower The Read Verify Threshold Value Associated With the Nth Program State or Raise the Read Verify Associated With the Next State (N+1) 622 If Number Of Cell's Found in The Nth Program State Equals the Compared To Value, Conclude Error Check For Nth Program State Cells